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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,617	08/28/2003	Ciaran J. Patterson	3015-86	8302

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EXAMINER

CUEVAS, PEDRO J

ART UNIT PAPER NUMBER

2834

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,617

Applicant(s)

PATTERSON, CIARAN J.

Examiner

Pedro J. Cuevas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-48 is/are allowed.
- 6) ☒ Claim(s) 1-22 and 49-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/28/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4, 9, 12-13, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 5,723,972 A to Bartol et al.

Bartol et al. clearly teaches the construction of a fail-safe common control of multiple alternators electrically connected in tandem parallel for producing high current comprising:

at least two sources (# "N" Prior art alternators) of electric power connected in parallel (Figure 1), each source of electric power having a regulator (Voltage Regulators), each regulator for producing a regulating signal (Master Control Signal - MCS) for its associated source of electric power, one of the regulators being a master regulator and at least one of the regulators being a follower regulator; and

a method for controlling the sources of electric power comprising the steps of:

sensing an output of a source of electric power (column 13, lines 23-25),

generating a control signal (MCS) with the master regulator based on the sensed output,

generating a regulating signal ("(MCS)#1" to "(MCS)#N-1") with the master regulator based on the control signal for a source of electric power associated with the master regulator,

sensing at least one operational characteristic (Voltage Divider - column 14, lines 32-41) of at least one source of electric power,

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modifying by normalizing the control signal (with a fail safe circuit) the control signal with the master regulator based on the operational characteristic of the source of electric power,

sending the modified control signal from the master regulator to the follower regulator (column 13, lines 30-31), and

generating a regulating signal with the follower regulator based on the modified control signal, the regulating signal for the source of electric power associated with the follower regulator;

wherein the sources of electric power comprise alternators producing power from at least one source of motive power;

wherein sensing an output of a source of electric power comprises sensing with the master regulator an output of an alternator associated with the master regulator;

wherein the sources of electric power comprise alternators producing power from at least one source of motive power;

wherein sensing at least one operational characteristic of at least one source of electric power comprises sensing with the master regulator at least one operational characteristic of an alternator associated with the master regulator, and the operating temperature and speed of at least one of the sources of electric power;

wherein modifying the control signal comprises modifying the control signal based on the operating characteristic of the alternator associated with the master regulator.

Claim Rejections - 35 USC § 103

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2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5-8, 10-11, 14-22, and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,723,972 A to Bartol et al. in view of U.S. Patent No. 4,775,828 to Watley et al.

Bartol et al. disclose the construction of a fail-safe common control of multiple alternators electrically connected in tandem parallel as disclosed above.

However, it fails to disclose converting the control signal to an instruction representing a percentage of maximum output of the alternator associated with the master regulator.

Watley et al. teach the construction of a power level indicator for an electric generator comprising a control signal (14, 16, 18, 20, 22, 24, and 26) representing a percentage of maximum output of the alternator for the purpose of indicating the percentage of the total power available from the generator which is being consumed by the load.

It would have been obvious to one skilled in the art at the time the invention was made to use the power level indicator disclosed by Watley et al. on the fail-safe common control of multiple alternators electrically connected in tandem parallel disclosed by Bartol et al. for the purpose of indicating the percentage of the total power available from the generator which is being consumed by the load.

4. With regards to claims 6-7, 10-11, 14-22, and 49-52 Bartol et al. discloses an energy storage device (battery) and the steps of:

converting the control signal is based on a look-up table;
generating a regulating signal so that an alternator associated with the follower regulator produces the percentage of maximum output;
determining efficiency of the alternator associated with the master regulator;
determining efficiency of the alternator associated with the follower regulator;
modifying the control signal based on the efficiency of the alternator associated with the master regulator and based on the efficiency of the alternator associated with the follower regulator;
determining operation life of the alternator associated with the master regulator;
determining operation life of the alternator associated with the follower regulator;
modifying the control signal based on the operation life of the alternator associated with the master regulator and based on the operation life of the alternator associated with the follower regulator;

Allowable Subject Matter

5. Claims 23-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 23-48 are allowed.

The prior art of record, taken alone or in combination, does not teaches the construction of:

a method for controlling the sources of electric power in a system having at least two sources connected in parallel as described on independent claim 23, comprising the

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step of determining which regulator is a master regulator after power-up of the system;

and

a voltage regulator having functionality as a master regulator and as a follower regulator as described on:

independent claim 36, comprising programming code stored in memory for determining whether the voltage regulator operates as a master regulator or as a follower regulator, and

independent claim 45, comprising means for determining whether the regulator is the master regulator or follower regulator, wherein a regulator may function as a master regulator or a follower regulator.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pedro J. Cuevas
April 18, 2005



DARREN SCHUBERG
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